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JPRS 83942

20 July 1983

# Worldwide Report

TELECOMMUNICATIONS POLICY,  
RESEARCH AND DEVELOPMENT

No. 279

19990430 121

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**NATIONAL TECHNICAL  
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U.S. DEPARTMENT OF COMMERCE  
SPRINGFIELD, VA. 22161

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20 July 1983

WORLDWIDE REPORT  
TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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WORLDWIDE AFFAIRS

NORWEGIAN UNION: SOVIET TRANSMITTER THREATENS AIR SAFETY

Oslo AFTENPOSTEN in Norwegian 22 Jun 83 p 4

[Article by Elisabeth Sem Christensen: "LO Wants to Stop Interference From Kiev Transmitter--Disturbances Threaten Air Safety"]

[Text] The international office of LO [Federation of Trade Unions] is today sending a written communication to the Foreign Ministry requesting that the disturbances from the Kiev transmitter be taken up with Soviet authorities. At the same time the LO wants to contact the Soviet LO to get an explanation and bring an end to the interference. The interference on the short wave band resumed again in January of this year, after a silent period since 1979-80.

LO is also going to discuss the noise from the Kiev transmitter with representatives of other countries which are bothered, in connection with the congress of the Free International Unions, which begins in Oslo on Thursday. The problem concerns Netherlands, England, France, Iceland and possibly West Germany, said LO's international secretary, Kaare Sandegren.

The LO initiative comes after a communication from the leadership of the National Telegraphers Union. The union requested LO and the Norwegian authorities to exert pressure on the Soviet Union to stop the radio interference from the controversial Kiev transmitter. During recent months there have been strong throbbing noises on the airwaves, almost around the clock, and it is mostly the telephone service that it gets into. But the noise also interferes with telegraphy, radio and telex, according to Hans Haga of Rogaland Radio, member of the board of the union. Haga is furthermore chairman of the Radio Personnel Association. Haga says that the noise from the Kiev transmitter can be so strong that it completely blocks important traffic channels between ships and shore. It also threatens air safety because certain aviation routes use the short wave band. "In certain situations the interference could have catastrophic results, and endanger human

lives," said Haga. He is also concerned about the working environment for personnel. The employees become ill and get very nauseated from working in all that noise, he said.

Kaare Sandegren in LO believes that the situation is so serious that the government should take up the interference with Soviet authorities. He also agrees with the thought that Norway should make contact with the authorities in other countries with the same problems, in order eventually to have a unified position. Sandegren points out that among other things the noise disturbs navigation and makes operators' work more difficult.

Sandegren says that they had positive contact with the Soviet LO the last time there were problems with the Kiev transmitter at the end of the 70's. Then the interference came to an end. Sandegren says that naturally there should now be a request for an explanation, and that the interference should be stopped as soon as possible.

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CSO: 5500/2732

AUSTRALIA

GOVERNMENT RAISES PROSPECT OF CANCELING AUSSAT

Opening to Private Enterprise

Melbourne THE AGE in English 20 May 83 p 4

[Article by Ken Haley and Simon Balderstone]

[Text]

The Government will sell 49 per cent of its \$75 million equity in Aussat Pty Ltd the company set up to shoot Australia's first communications satellite into space by 1985.

To avoid monopoly moves in private ownership of the enterprise, the Government is stipulating that sale of shares be subject to "an appropriate spread of share-holding and to the development of satisfactory arrangements being in place to protect the public interest".

These arrangements may include the regulation of satellite services to ensure co-ordination

with earth-bound communications links.

The Fraser Government provided for 100 per cent Government ownership of Aussat from 1981-82 to 1985-86. In last year's Budget it announced an intention to sell 49 per cent of its holding into private hands, but no qualification were placed upon that intention.

Letting private enterprise into the satellite picture is estimated to net the Commonwealth \$24.3 million next financial year, declining to \$11 million in 1984-85 and \$1.5 million in the satellite's first full year of transmission, 1985-86.

Telecom Workers' Stand

Sydney THE SYDNEY MORNING HERALD in English 21 May 83 p 4

[Text] The Federal Government has been warned to reverse its Budget decisions on Telecom and Australia's domestic satellite, or face the possibility of national industrial action.

The federal president of the 26,000-member Australian Telecommunications Employees' Association, Mr Colin Cooper, said last night the association would run a public and political campaign.

On Thursday night, the Treasurer, Mr Keating, announced the Government's decision to force Telecom to increase its interest payments to the Commonwealth by about \$100 million next financial year.

Mr Keating said the charges could be met by "a one cent increase in the cost of local calls, a commensurate increase in short and medium-distance STD charges and a \$10 increase in annual telephone rental fees."

Mr Cooper and the acting national secretary of Telecom's other major union, the Administrative and Clerical Officers' Association, Mr Peter Robson, also accused the Federal Government of having been influenced by the lobbying of large media interests. They referred to its decision to sell to business interests up to 49 per cent of AUSSAT Pty Ltd, set up in 1981, to manage Australia's \$250 million domestic satellite. The satellite is to be launched in two share shuttle mission in mid 1985. The AUSSAT board is understood to be delighted with the decision. Its chairman, Mr Stan Owens, welcomed the move last night.

Mr Eric Warren, who heads the ABC's satellite team, said the ABC (a major user of the satellite), still believed it should be represented on the board.

### High-Cost Fears

Perth THE WEST AUSTRALIAN in English 23 May 83 p 5

[Text]

### CANBERRA: Telecommunications are in danger of being priced beyond the means of many Australians, says a business group.

As a result of the Budget decision to increase interest payments on part of Telecom's capital, the Australian Telecommunications Users Group (ATUG) has called for urgent reconsideration of the move.

In a telex to the Communications Minister, Mr Duffy, ATUG said that the Government was adding to the already expensive Telecom charges without funds from local or overseas sources.

The Treasurer, Mr Keating, said in last Thursday's mini-Budget that the interest rate payable on that part of the interest bearing capital of Telecom still subject to 10 per cent a year would be increased.

The move is expected to bring the Govern-

ment an additional \$100 million in 1983-84.

Mr Keating said the additional interest charge could be met by a 1c increase in local calls or an increase in the cost of short to medium distance STD calls and telephone rental fees.

ATUG's telex to Mr Duffy said that many of the people who would not be able to afford increased telecom charges were in "low-income groups, which the Government is so anxious to assist."

#### Increase

In a letter to Mr Duffy earlier this month the Sydney-based group, which represents a wide range of business users of com-

munications services, said it had constantly criticised the financial management circumstances imposed on Telecom by the previous Government.

Telecom was required to fund a \$1500 million development programme by using 80 per cent of its internally-generated funds.

It said that a figure nearer 50 per cent would be more reasonable and that Telecom should be allowed to borrow overseas as were other public authorities.

ATUG's letter said that the Government should inject additional equity capital into Telecom from time to time as it intended to do for Qantas, TAA and The Australian National Line.

## AUSSAT Official's Assurances

Brisbane THE COURIER-MAIL in English 24 May 83 p 18

[Text]

SYDNEY.— AUSSAT chief executive Mr Graham Gosewinckel is confident Australia will get a domestic satellite despite an order from the Communications Minister, Mr Duffy, for a financial analysis of the project.

"I am confident that any examination of the satellite program will show that it will pay for itself and it won't be a drain on the taxpayer," Mr Gosewinckel said yes-

terday.

He said the contract with Hughes Communications International, which is building three satellites for the project, had a cancellation clause.

But if the project did not go ahead it would cost AUSSAT more than \$150 million, Mr Gosewinckel said.

Mr Duffy refused to rule out the possible cancellation of the project if "it turns out to be a lemon".

## Union Opposition

Perth THE WEST AUSTRALIAN in English 24 May 83 p 14

[Text]

CANBERRA. A major telecommunications union yesterday called on Labor caucus members to overturn the Government's decision to sell part of the domestic satellite project to private enterprise.

The Australian Telecommunications Employees' Association said that the Government should consider dropping the entire satellite project because it was "ill-conceived."

The association's federal secretary, Mr Bill Mansfield, said that the association would now start a vigorous campaign to reverse the mini-Budget decision to sell 49 per cent of AUSSAT to private enterprise.

He said that any satellite should be operated by Telecom to prevent costly errors and competition in development of Australia's communications.

The Communications Minister, Mr Duffy, has refused to rule out cancelling the satellite project pending a new study of its financial

prospects.

He has asked the Finance and Treasury departments to examine new figures from the Communications Department and AUSSAT.

### Confident

AUSSAT chief executive Graham Gosewinckel said yesterday: "I am confident that any examination of the satellite programme will show that it will pay for itself and it won't be a drain on the taxpayer."

However, Telecom and the ATEA believe that Telecom could provide most of the services offered by the satellite much cheaper and that the satellite may not be viable unless it can compete with Telecom.

Mr. Mansfield said that if the satellite was able to siphon revenue away from Telecom the public would then face higher telephone charges.

If the project is dropped the Government will face a backlash from people in re-

mote areas who have been told they will get better services because of the satellite.

The Opposition communication spokesman, Mr Lloyd, said that any decision to drop the project would make a mockery of the Government's commitments to rural people and new technology.

The decision to open up part of the satellite to private enterprise has been welcomed by Communications Facilities, one of the major consortiums set up to

use it.

Communications Facilities, managed by the national news agency Australian Associated Press, said it felt the decision was in the best interests of the nation.

A consortium spokesman and AAP general manager, Mr Lee Casey, said the decision would go a long way towards preserving the ability of AUSSAT to operate as an independent telecommunications authority.

#### Perth Control Station

Perth THE WEST AUSTRALIAN in English 20 May 83 p 13

[Text]

**THE NEW domestic satellite control station to be built in Lockridge this year was described yesterday as a low-key establishment that would be barely visible to local residents.**

Details of the project were given by a spokesman for Aussat Pty Ltd, the government-appointed company which will operate the station.

Speaking from Sydney the spokesman said that the Perth station would be a single-storey building similar in size to "a super-large home." It would be 1500 square metres in area.

It would have two dish-shaped antennas—each 13m in diameter—and both would be mounted close to the ground.

#### Approval

A Swan Shire Council spokesman confirmed yesterday that town planning approval had been given for the station, which will be built on 32 hectares of land being bought by Aussat from the Overseas Telecommunications Commission.

There had been no objections to the station, on the western side of Altone Road between

Morley Drive and Benara Road.

According to the Aussat spokesman the station would take up only 2½ hectares of land, near Devonshire Road—a road still to be built.

The spokesman said that the control station was about 250 metres from the nearest houses, on the western side of Altone Road.

"They won't even know the station is there," the spokesman said.

"It will be very quiet, with only a few vehicles coming and going and only the top of the antennas will be visible to people in some of the nearby houses."

Aussat is waiting for building approval from the Swan shire and construction work is expected to start next month.

The Lockridge station is one of two vital ground-control stations in the new \$420 million domestic satellite project.

COMPUTER INDUSTRY SEES SIGNS OF GREATER GOVERNMENT SUPPORT

Canberra THE AUSTRALIAN in English 17 May 83 p 28

[Article by Harry Douglas]

[Text]

SINCE Mr Barry Jones took over as Minister for Science and Technology, the computer and allied industries have been buzzing with enthusiasm for increased Government support.

The "sunrise" industries are expecting a beefed-up level of grants under the Industrial Research and Development Incentive grants scheme and new board members are expected to take over on July 1 1983.

Both the commencement grants and the project grants components of the IR and D scheme are likely to be increased and specific areas in the computer industry have been earmarked for encouragement.

Mr Jones in a recent interview saw the following as promising areas for Australians in the information technology sector:

**CUSTOM** microchips — the work of the CSIRO's VLSI project headed by Dr Craig Mudge is praised by Mr Jones.

**MICROCOMPUTERS** — "I think we've got to get into the personal computer market," said the Minister, who sees a growing domestic and world demand for microcomputers.

**SOFTWARE** — "I think software writing is going to be very significant."

**COMPUTER** applications — "I think computer applications generally are going to have a significant impact in a whole lot of related areas."

An example is the low-cost

manufacturing information system (MIS) which has been specified over the past three years by the Royal Melbourne Institute of Technology (RMIT) under the overall control of the Department of Science and Technology.

Funds of \$300,000 have been provided to date under the Commonwealth Government's public interest projects scheme.

The RMIT, through its consulting arm, Technisearch Ltd, was commissioned to draw up specifications which will remain the property of the Commonwealth Government.

Tenders for the supply of a complete hardware/software system were called in 1982 following the most comprehensive market research project I have seen to date in the specialised application development area of the computer industry.

This research was performed by the Department of Science and Technology and RMIT with the help of other associations.

Hewlett-Packard, a large multi-national company with no Australian equity, was announced as the successful tenderer at the start of 1983.

HP's world-wide revenue in 1982 was \$US4200 million (\$4772 million) and its Australian and New Zealand sales revenue for the 12 months ending October 31, 1982 was almost \$81 million. The combined profit of its Australia and New Zealand operations before tax was \$4 million.

HP has an exclusive licensee agreement over the specification for nine months and presumably after the expiry of this period Australian companies can enter the arena without Government sanction.

HP is obliged to pay royalties of only 5 per cent of the software component of the hardware/software package — that is, less than 2 per cent of the total sales price.

In the case of Australian companies acting as agents for overseas products, the royalty paid can be up to 50 per cent.

Serious consideration was given to raising this 5 per cent figure following recommendations by industry practitioners, but it was felt that such an increase would tend to be passed on by HP and thus affect the market acceptance of the product.

Unfortunately I understand the base price has already crept up from the original estimate.

At recent HP and Department of Science and Technology seminars in which the low-cost MIS was reviewed, the presence of several 100 per cent Australian-owned software companies such as Berger Software, McGirr's and Alex Smith was noted and even one or two intrepid Australian computer manufacturers such as Michael Roberts were present.

If one defines the software development phase of this type of project in its full context then the percentages of the cost components are approximately:— Marketing research, feasibility — 10 per cent of funds; external design 15 per cent; internal design 30 per cent; programming and check-out 15 per cent; quality assurance 10 per cent; documentation 10 per cent; marketing planning 10 per cent.

For the continuing selling and support phase, the percentage of cost components are approximately:— Marketing and sales 50 per cent; customer training 5 per cent; systems engineering 10 per cent; headquarters engineering 5 per cent; product maintenance and quality assurance 10 per cent; product improvement and quality assurance 10 per cent; financial and administration 10 per cent.

Judging by the recent document, "HP — Master Plan of the MIS Project", the individual customer will be required to become involved in the generation of the actual program code that suits his particular business.

It appears the HP design will require the use of systems generator type software, and input to this will be decision tables, screen formats, parameter files and report layouts.

As the specification of these will be different for each customer, the system will have to be developed with assistance of professional analysts.

The source of such assistance is not clear at this stage.

In this project Hewlett-Packard is only responsible for a percentage of the total cost of the development phase yet receives 100 per cent of the hardware revenue and 95 per cent of the software revenue.

HP also receives direct and indirect ongoing help from the Government on this project.

HP has stated with confidence that its sales will be so high that with the 5 per cent royalty on the software component it will reimburse the Government some \$400,000 over a four-year period.

The main thrust of any Government action is to help the majority of Australians and in this case its intention was to improve productivity by improving the management of small manufacturing companies.

There is no question that HP has enjoyed a profitable record in the United States in helping manufacturing companies, especially in the electronic industry and, in particular, in Silicon Valley.

It is understood that HP Australia predicts several hundred sales of its HP 1000 series on the basis of this Government-sponsored application alone at an average hardware cost of some \$30,000 per unit.

It will be interesting to find out what proportion of the HP investment in this project will be in marketing activities that would have been necessary in the normal course of its hardware selling — without the MIS catalyst.

Last week's MIS seminars were conducted in Melbourne and Sydney by the Department of Science and Technology and RMIT, with help from HP and others.

Next week I will discuss these seminars in some detail.

This project represents, without doubt, the major involvement by the Commonwealth Government in a specific computer industry application.

The computer industry will no doubt monitor progress keenly and eagerly await the final outcome.

COST BENEFITS OF USING AUSTPAC DIGITAL SERVICE NOTED

Canberra THE AUSTRALIAN in English 31 May 83 p 21

[Article by Ian Cannon]

[Text]

TELECOM Australia has begun taking a higher profile in marketing its telecommunications facilities in the wake of the Davidson inquiry, which recommended the divestment of its monopoly.

But it is soft-pedalling the availability of its Austpac packet-switching network following prolonged difficulties in co-ordinating the completion of equipment development.

In a paper presented at the Computers in Mining Symposium in Brisbane last week, Mr Dale Jeffreys, a data consultant for Telecom, stressed the economics of using its Digital Data Service.

"Austpac will be available to hardware suppliers during 1983 for equipment development and to customers as a fully unrestricted service early in 1984," he said.

Mr Jeffreys said customers with big networks would be able to obtain substantial benefits — up to about \$22,000 a year savings for a metropolitan service — by using the multiplexing facility Netplex of DDS.

"This facility allows remote terminals to access the computer via a single multiplex stream where their aggregate data rate does not exceed 48,000 bits per second," he said.

"Also, this enables a customer to interface with a number of terminals while only using a single computer port."

Mr Jeffreys pointed out that a pricing option known as Netstream would allow separate customer data streams between DDS centres to be aggregated into one stream for charging purposes, thus effecting a considerable cost saving.

Tariffs are designed to be attractive to operators of larger telepro-

cessing leased networks," he said.

"Customers will find that DDS tariffs for long-haul services will be substantially lower than Datel tariffs.

"As with our existing services, tariffs increase with data rate, but are not as distance dependent."

The following cost comparison of 9600bps point-to-point services, he said, reflected the rental saving available through DDS.

**BRISBANE** to Rockhampton, 9600 bps: Datel — \$15,172 a year; DDS — \$10,116 a year.

**TOWNSVILLE** to Brisbane, 4800bps: Datel — \$21,141 a year; DDS — \$10,512 a year.

As opposed to altering customers' data to transmit over a network designed for "voice" communications, DDS is designed solely for full duplex synchronous data transfer.

In communications, "full duplex" means a simultaneous two-way and independent transmission in both directions.

Speeds of transmission range from 2400 to 48,000bps, with the basic range of point-to-point and multipoint services being functionally similar to existing Datel services.

Mr Jeffreys said that by 1986 most towns in Queensland would be serviced by DDS and each centre would serve as a node for connection of customers within about a 10km radius of that node.

"High-speed data streams will connect main centres, while low-speed links connect smaller centres and finally the data is demultiplexed to the base rate required by each individual customer," he said.

An access line from the nearest centre is provided to the customer's premises where Telecom provides a network terminating unit and these units are plug-compatible with the

existing modems used on a Datel service."

Mr Jeffreys told the mining symposium that 90 per cent of Telecom customers had specific applications requiring either extremely short response times or big volumes of data to be transferred.

Under the Datel private line system, communication could be provided to many regional centres while saving considerable rental charges by using the Multistream service.

He said: "To achieve this configuration, a 9600bps Datel service is provided from a central processing unit to, for example, a mine site in a regional area.

"The 9600bps stream is multiplexed into a number of low speed streams.

"At the outstation location terminals can work directly into these lower speed modem ports, or other Datel services — point-to-point or multipoint — can be provided to other locations.

"This service offers much flexibility, with a further advantage to the mining industry being the ability to provide to a mine site, where available communication capacity is usually limited, up to four separate data lines from one physical channel."

An effective method of using a Multistream service to relieve the problem of limited channel capacity into some mine sites was by combining voice and data communications over a Multistream service.

The voice signal must be presented to the modem in an acceptable digital form and this could be achieved by using privately supplied voice digitisers.

While failing to explain the delays in fully implementing Austpac, Mr Jeffreys said the high-quality switching of the service at speeds up to 48,000bps admirably suited the needs of the de-

vloping teleprocessing market.

The service will make all aspects of distributed communications more economically feasible, including such relatively new techniques as electronic mail and funds transfer.

It is a revolution that is well under way in Europe, where 17 countries already have operating or planned public packet-switched data services.

The DPS 25 packet switching system for Austpac has been designed and manufactured by Sesa of France.

According to the French Centre National d'Etudes de Telecommunications, France's packet-switching network Transpac has about 7000 direct user connections, including more than 5500 X.25 connections.

Of the three Honeywell Level 6/43 computer systems for Austpac, one collects accounting data and the other two comprise a network management centre, which handles subscriber connections and provides internal network control.

Sesa, considered by Telecom to have the least expensive system that was technically suitable, has built two big networks in Transpac and the Euro-net network of the European Economic Community.

It has also sold public networks to New Zealand, Brazil, Finland and Luxembourg and has sold big private networks in the US through Sesa Honeywell, including a network for the Chase Manhattan Bank.

Packet-switching will provide an answer for the paperless office because Austpac tariffs make it possible to afford switched data communications anywhere.

As demand becomes evident, Telecom plans to establish an interface to the telex network, allowing users to communicate across both networks.

CSO: 5500/7580

THREE NEW SERVICES TO BE INTRODUCED AFTER 31 AUGUST 1983

Kuala Lumpur BUSINESS TIMES in English 18 May 83 p 1

[Text]

THE Telecoms Department will introduce three new facilities to subscribers this year to upgrade telecommunications in the country. The Minister of Posts, Telecommunications and Energy, Datuk Leo Moggie, said that these services would commence after Aug. 31, the nation's independence anniversary.

These services are the telefax transmission, the bureaufax transmission and the dial-up/datal system. With these additional facilities, the subscribers would have a wider choice of services. Charges for these services were being finalised.

Interviewed over Radio and Television Malaysia last night as part of the World Telecoms Day celebrations, Datuk Leo said: "The government is anxious to upgrade the present services provided by the Telecoms Department, especially because the government is trying to make Kuala Lumpur a financial centre.

"The existing infrastructure is adequate to support the present re-

quirements. What we are doing is to improve the services so as to give our subscribers the widest choice possible. The target is to install 1.2 million telephones and to provide telex services for 15,000 subscribers, as already outlined under the Fourth Malaysia Plan.

"The new services we propose will enhance the existing facilities," he added.

The telefax service will enable subscribers, especially those in the private sector, to utilise telecoms facilities to transmit, by facsimile, information over long distances. The subscribers will need to acquire terminal points which will be used to transmit and receive their messages.

This service will be useful for companies such as architects and advertising companies as well as many others to transmit their graphic messages, prints and pictures.

The bureaufax service is the same as the telefax service. The only difference is that consumers will have to go to the nearest post office to

transmit and receive their message. The terminal points will be located within the post office, and the service will cater mainly to general consumers.

Datuk Leo pointed out that no additional funds would be required to provide these services. The department was not able to provide them earlier because its priority then was to consolidate the general infrastructural facilities.

Corporate subscribers who use the service would have to lease the terminals from the Telecoms at a fee yet to be finalised. It is not yet certain whether the subscribers could buy their own equipment, but it is understood that some discussions have already been held on the possibility.

Datuk Leo also highlighted the department's stress on maintaining efficient services all round. The rapid development of the country has heightened consumer demands, giving rise, sometimes, to a few problems. "Generally speaking, the problems are not due to inefficient handling, but rather to the shortage of lines," he said.

With the increased sophistication in the equipment and services, the department would also embark on a more intensive training programme for its staff. Five more training centres would be set up to supplement the sole training centre in Kuala Lumpur. The new centres would be in Malacca, Kota Kinabalu, Kuching, Taiping and Kuala Terengganu.

Asked whether the department was making any definite preparations to establish its own satellite facilities, Datuk Leo remarked that the government was "not unhappy" with the present facilities. However, it would continue to monitor the developments in satellite technology so that it would be better prepared if and when it decided to proceed with such use, he said.

He also clarified that no decision has been made to adjust the present structure in telex charges, though the matter would constantly be reviewed.

CSO: 5500/8506

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

POST, TELECOMMUNICATIONS ACCORD WITH GDR--Beijing, June 23 (XINHUA)--An agreement on posts and telecommunications cooperation between China and the German Democratic Republic (GDR) was signed here this afternoon. Under the agreement, the two countries will take measures to further expand and improve the relations of posts and telecommunications between them. State Councilor Gu Mu and Minister of Posts and Telecommunications Wen Minsheng attended the signing ceremony. Zhu Gaofeng and Heinz Aull, both vice ministers of posts and telecommunications, signed the agreement on behalf of their respective governments. Earlier, Gu Mu met with the GDR guests and had friendly conversations with them. Joachim Kruger, charge d'affaires ad interim of the GDR Embassy here, was also present on both occasions. [Text] [OW231216 Beijing XINHUA in English 1143 GMT 23 Jun 83]

FUJIAN, GUANGDONG TV PROGRAMS--From 6-21 June, the Fujian and Guangdong Provincial Radio and Television Bureaus jointly held a forum on support for television programs in Fujian and Guangdong. Attending were responsible comrades of the radio and television departments and bureaus and television stations of 26 provinces, municipalities, and autonomous regions, 2 cities--Xiamen and Shenzhen--and program exchange departments. The forum was held first in Fuzhou and then in Guangzhou. The Propaganda Department of the CPC Central Committee and the Ministry of Radio and Television issued a circular at the beginning of this year, demanding that all provinces support Fujian and Guangdong Provinces to run television programs well. From January to May this year, all provinces supported the two provincial television stations by providing them with some 200 hours of programs, many of which have relatively high ideological and artistic levels and have played an outstanding part in enriching the contents of the television programs in the two provinces and disseminating the building of socialist spiritual civilization. The representatives at the forum declared that in the future, it is imperative to adopt many methods to continuously endeavor to support Fujian and Guangdong Provinces to run television well. [Text] [HK230953 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 22 Jun 83]

CSO: 5500/4166

CZECHOSLOVAKIA

ANTENNA EFFECTS ON BRATISLAVA TV RECEPTION DISCUSSED

AU011440 Bratislava VECERNIK in Slovak 30 May 83 p 1

["(ENI)"-signed interview with Engineer Milan Pritz, director of the Radio Communications Inspectorate in Bratislava, in the column "We Ask With You": "Where Is the Breakdown?"; date and place not given]

[Summary] [Question] Why has there been bad reception of the second television program in certain areas of Bratislava for quite some time?

[Answer] Our measurements toward the end of March showed that "the antennae system basically fulfills the requirements" and that "we have essentially achieved the state which existed prior to the breakdown" [no details given]. However, in "certain areas the television signal has been degraded by reflections, the reception is unstable, or else good reception in color is impossible. This applies particularly to Posen, Trnavka, Raca, Ruzinov, and the area below the main railroad station."

[Question] What are the future prospects?

[Answer] A few days ago the Radio Communications Administration in Bratislava came to an agreement with the Tesla Hloubetin plant on the adjustment of the antennae system with the expert cooperation of the Research Communications Institute in Prague. The work is planned for this June.

[Question] Are all areas with bad reception known to you?

[Answer] They are not. We, therefore, ask all citizens to report bad reception to the regional branch of Radio Communications Protection Service in Bratislava. Those viewers whose bad reception is due to the current state of the antennae system of the second program Bratislava-Kamzik are asked to be patient.

CSO: 5500/3015

COSTA RICA

BRIEFS

SANTA CRUZ RADIO STATION--A new station called Radio Catolica Cultural de Guanacaste will begin operations on 25 July in Santa Cruz. The station will be part of Costa Rica's network of Catholic stations and will operate on 1100 khz with 20,000 watts of power. Its broadcasts will cover Guanacaste and part of the Puntarenas area. It will broadcast newscasts as well as cultural, musical and other recreational programs. [Summary] [PA170046 San Jose LA PRENSA LIBRE in Spanish 6 Jun 83 p 14]

CSO: 5500/2083

MEXICO

BRIEFS

MEXICAN COMMUNICATIONS SATELLITES--Mexico City, 25 Jun (NOTIMEX)--Mexico will enter fully into the space age in 1985 when it will orbit two satellites to be used exclusively for national coverage. The government-financed satellites will become part of the "Morelos System" and will directly benefit the Mexican people, supporting priority programs such as education, medicine, and agriculture, among others. It will facilitate national coverage with several television channels and expand telephone and telex services. The satellites will be orbited by NASA, the U.S. space transport system. Mexico's Morelos System will be for domestic use; it will not send nor receive signals from any other part of the world. The satellites were manufactured by Hughes International, are cylindrical, weigh 1,240 kilos, have a diameter of 216 centimeters, and a life expectancy of a little over 9 years. Television programs (up to 36 channels) can be received directly from the satellites with antennas 3.5 meters in diameter but if the satellite handles two signals per channel simultaneously, antennas of over 4.5 meters in diameter would be required.  
[Summary] [Mexico City NOTIMEX in Spanish 2245 GMT 25 Jun 83 FL]

CSO: 5500/2082

AFGHANISTAN

BRIEFS

RADIO RECEIVING STATION--FARAH, June 1 (Bakhtar)--The installation work of the radio-relay receiving station in the Farah province was started recently by a technical team of the Communications Ministry. Sources of the communications directorage of the province said with the cooperation of the installation work of this station more facilities will be provided in broadcasting radio programmes in the related areas of that province. [Text] [Kabul NEW TIMES in English 1 Jun 83 p 1]

CSO: 5500/4746

ERICSSON FIRM TO DELIVER PAY TELEPHONE SYSTEM

Helsinki HUFVUDSTADSBLADET in Swedish 13 Jun 83 p 8

Text Algeria's telephone administration has concluded an agreement with the Ericsson concern regarding the delivery of public telephone exchanges valued at 220 million marks. Since the first contract for equipment of this type was concluded 10 years ago, Ericsson has received orders worth more than 720 million marks from Algeria.

The present order covers electronic crossbar switch exchanges for approximately 70,000 subscriber connections, expansion of transit centers and increasing the capacity of the existing local exchanges. The Algerian telephone administration has plans for the impending increases that are to be made in the telephone network to be carried out by means of digital technology.

In that connection, people at the Ericsson concern note that the first completely digital AXE local exchange in Africa was put into operation in Tunis recently. The first phase covers 2,000 extensions. The telephone administration in Tunis has already ordered AXE equipment for a total of 80,000 extensions, and, of those, 8,000 new lines will be put into operation this summer.

9266  
CSO: 5500/2735

ISRAEL

BRIEFS

POWER INCREASE ON FM BROADCASTS--The Communications Ministry will increase the power of its FM broadcasts to improve reception of the Voice of Music. This was reported by Communications Ministry engineers Ya'akov Ziv and Ya'akov Nitzan to the Broadcasting Authority director and the radio director. [Text] [TA051353 Jerusalem Domestic Service in Hebrew 1300 GMT 5 Jul 83]

CSO: 5500/4534

## FRENCH TELECOMMUNICATIONS AID DESCRIBED

Ndjamena INFO TCHAD in French 23 May 83 opp 3, 4

Text The minister of posts and telecommunications, Assileck Halata, during a ceremony on Saturday at Gredia, received from the head of the aid and cooperation mission a number of radio equipment items for Chad. The equipment, assembled by the French cooperation program, includes, among other things, three transmitters--one 20 kilowatts and two 6 kilowatts. France has also provided Chad with five new receivers, including one for AFP. This equipment is part of French aid for Chad's reconstruction. With this new equipment, Chad International Telecommunications will be able to meet the needs of its customers. In a speech on the occasion, Assileck Halata said that telecommunications is a basic infrastructure for any socio-economic development. That is why, he emphasized, the government of the Third Republic and the president of the republic, Hissein Habre, assign special importance to establishing and developing telecommunications.

The minister pointed out that the acquisition of this equipment is not an end in itself but rather the resumption of a long-standing and close cooperation in telecommunications between France and Chad.

In this connection, Assileck Halata referred to the latest meeting in Ndjamena 2 to 5 May between Chad technicians and Thomson CSF representatives at which they restarted the first, priority phase of the national telecommunications plan, and he said he was optimistic about French support for the Ndjamena government's efforts to implement the plan. Speaking in reply to the minister, Gabriel Massa assured the Chadian leaders of his country's support in the telecommunications field. At the same time, Gabriel Massa announced the resumption by "Lyon Cables" of construction of the Ndjamena urban network that had been interrupted by the war.

The head of the aid and cooperation mission also announced that the building containing the new Ndjamena telephone exchange will soon be renovated. This will protect the equipment already installed from harmful weather conditions. This construction, which will cost a total of 490 million CFA francs, will ultimately provide an efficient underground system with reliable connections for the new 1,000-subscriber network.

Gabriel Massa also confirmed that three technical assistants in the fields of telecommunications, telephone exchanges, and telecommunications use had arrived in Chad to assist the Chadian officials of the departments concerned. (ATP).

## FAILURE OF AEROSTATE BALLOON PROJECT EXPLORED

Kaduna SUNDAY NEW NIGERIAN in English 5 Jun 83 pp 1, 12

[Article by Emmanuel Yawe]

**[Text]** WAS the multi-million Naira aerostat balloon project which the Federal Government cancelled two weeks ago, initially undertaken against the advice of communication experts?

Is it true that the system does not operate in any other country in the world?

Were some officials of the NET compulsorily retired in 1976 because of their opposition to the aerostat balloon project?

Investigation by the SNN revealed that the answer to all the questions above is NO in spite of a recent newspaper report to the contrary.

Our investigations during the week revealed that the aerostat balloon contract was awarded by the late Head of State, General Murtala Muhammed to TCOM — an American Company on February 12, 1976 — a day before his assassination.

According to our investigations, General Murtala Muhammed became aware of the use of the system for communications purposes when he led a delegation of P&T officials to a telecommunications exhibition in Brighton, England in 1974.

General Murtala Mohammed, who was then a Federal Commissioner for Communications, later in the year sent an emissary of the ministry to view a TCOM Aerostat Balloon System in operation in the Bahamas.

The commissioner later led a delegation to aerostat sites at Elizabeth City, North Carolina; Cudjoe Key Florida; and the TCOM Headquarters in Columbia, Maryland, all in the U.S. to determine the applicability of the system.

Both delegations found the system functionally viable and less expensive than conventional terrestrial systems.

It is definitely not true to say that the system does not operate in any country in the world.

Our findings have shown that the aerostat balloon has operated efficiently in the Bahamas since 1973, in Cudjoe Key Maryland, Florida since 1970, in Zaboli — South East Iran between 1977-78.

The Iran station ceased to function when in the wake of the Islamic revolution all the American staff operating it had to be evacuated.

The Aerostat Balloon System which was invented 50 years ago was first used in the First World War as an observation post.

Since then, most countries that adopted it have put it to military use only. Consequently the operations of the system are shrouded in secrecy, bearing in mind the security implications to the countries concerned.

The Sunday New Nigerian however reliably gathered that the U.S. Airforce has been using the Florida Aerostat

Balloon Station for the past 13 years.

The Nigerian Aerostat Project was however designed for nationwide television coverage, nationwide FM Radio Channel, and to complement the P. & T. telephone transmission network.

The Minister for Communications, Mr. Audu Ogbeh, on Tuesday, May 17, 1983 announced that the government had terminated the contract on which about 140 million Naira has been spent because the major contractors, TCOM, refused to sign an indemnity clause as part of the revised contract agreement.

The Sunday New Nigerian also gathered that the project which was originally scheduled to be completed in 36 months was delayed because the civil works on the project could not be completed on schedule.

Contracts for the civil works were awarded to eight indigenous contractors who eventually abandoned works on the project in 1978.

Consequently, it became impossible for TCOM whose role in the project was to supply and install the balloons to go ahead with the project even though they had manufactured and imported all the necessary equipments between 1977 and 1978.

The delay in the completion of the project prompted the Shagari Administration into

setting up a "Special Aerostat Committee" to advise on the future direction of the project.

The special committee which had a member each from the NTA, FRCN, Department of Information and the Ministry of Communications recommended amongst other things that TCOM should be given responsibility for the civil works and that an indemnity clause be inserted in the master contract with TCOM with a view to protecting the Federal Government investment from system failure and project delay.

Authoritative sources in the Federal Ministry of Communications told the Sunday New Nigerian that the federal government wanted Westinghouse, Chase Manhattan Bank, and the Federal Insurance Company to stand as guarantors in case the project failed.

TCOM however wanted only its parent company, Westinghouse to be the sole guarantor. "It was as a result of the stalemate over the indemnity clause that the contract had

to be terminated" our source added.

When contacted, the Manager of the TCOM in Nigeria, Mr. Robert Watson told the Sunday New Nigerian that his company had been spending 10,000 Naira a day since it started operations in the country.

He however denied allegations that the Nigerian government had been paying that amount per day to his company.

According to him, the terms for the settlement of the contract were still being worked out.

Our sources also described as "ridiculous and unfounded" the allegations that some professionals who advised against the project in the Ministry of Communications were witch-hunted and dismissed from the service of the ministry.

CSO: 5500/173

## SAFETY OF KUJAMA SATELLITE STATION QUESTIONED

### Experts Vary

Kaduna NEW NIGERIAN in English 15 Jun 83 pp 1, 13

[Article by Tawey Zakka]

**[Text] A VERY strong wind could send the only antenna of Nigeria's second satellite earth station at Kujama in Kaduna State crashing, a very reliable source in the Federal Department of Meteorological Services has said.**

The Kujama Satellite Earth Station, built by Radio Communications (RCM) Nigeria Limited in conjunction with Harris Satellite Telecommunications, was commissioned by President Shehu Shagari on May 24, this year.

It is situated on the lee-side of a fairly high mountain range, and meteorological experts fear that it could not stand the onslaught of a very high velocity wind.

The Head of the Federal Department of Meteorological Services in Kaduna, Mr. V.C. Obinaju said that a wind blowing

up the mountains would descend on the lee-side with a whirlblast, so powerful that it could rip off any structure in its way.

Mr. Obinaju said that in June 1981, a very powerful wind from the mountain range damaged

parts of the equipment already installed.

He stated that the Nigerian External Telecommunications Limited (NET) was advised by the Meteorological Department to take the project away from its present location.

NET officials and an RCM representative, Mr. R. Buchinan, however, said that the satellite's 90-ton antenna could withstand any wind, however strong.

A NET spokesman, Mr. E. Fields, said the satellite antenna could "survive a wind with velocity of up to 200 kilometres an hour."

He added, however, that at 130 kilometres an hour, the antenna was "automatically" put in "stow" or safety position — its concave disc facing the sky and away from the direction of the

wind.

The satellite station manager, Alhaji Mohammed Abdusalam and the RCM site engineer, Mr. Buchinan, both agreed that there was an unusually high velocity wind sometime in June, 1981, but said it only pulled down two walls of an unfinished powerhouse.

They said the operation building which houses the computerised telephone and telex equipment and on which the antenna is hoisted, was intact.

"The powerhouse has been rebuilt without any additional

cost to NET," Mr. Buchinan said.

He explained that the cost of rebuilding was borne by RCM and its sub-contractors, CISK Engineering Limited, who did all the civil works on the site.

Another whirlblast, blowing at 120 kilometres an hour, removed the roofs of some office blocks and reception stands on May 23 — a day before the satellite complex was to be commissioned by President Shagari.

But the NET officials still said Kujama was a most ideal site.

"The mountains dwarfing the satellite complex will protect it against interference by stray radio microwaves," they said.

The contract for the Kujama Satellite Earth Station was awarded to RCM in 1976 for about 12 million Naira and was to have been completed two years later.

But in 1979, it was re-negotiated and the value went up to more than 16 million Naira, "because of inflation in America and Nigeria," according to NET and RCM officials.

## Safe, Assures Tahir

Kaduna NEW NIGERIAN in English 19 Jun 83 p 1

[Article by Clement Eluaka]

[Text]

THE Kujama satellite earth station in Kaduna State can safely withstand the impact of any strong, ghastly wind.

Also, the site and location of the satellite was approved by Itelsat International Organisation based in Washington which deals with location of satellites as well as regulation of their channels for international and domestic communication.

These explanations were given in Lagos on Friday by the Chairman of the Nigerian External Telecommunications (NET), Dr. Ibrahim Tahir, while reacting to a recent publication inquiring about the safety of the satellite.

According to him, the location of the satellite was based on scientific and geographical data computed by the R.C.N. — the company which built the 16 million Naira satellite station.

He said the present site of the earth station which was decided about nine years ago was typical of the location of earth stations throughout the world, adding that even in stormy typhoon (windy,

stormy) countries, earth stations have been reported to have withstood the weather.

The Kujama earth station can withstand even the hurricane in Nigeria and stressed that the NET plans to build additional fortresses for the satellite.

Dr. Tahir said it was not true that the Meteorological Department warned the NET about the location of the earth station and explained that when NET inquired about the safety of the location what the Meteorological Department said was that there was a particular local wind that blows occasionally in that area which data could either be determined or computed as at then.

The NET Chairman however reiterated that the 90-ton satellite was safe while the strength and fortifications were of international standard.

"There is going to be a detailed technical report on the strength of the satellite by NET engineers in a few weeks' time," he added.

CSO: 5500/174

TANZANIA

BRIEFS

NEW TELEPHONE EXCHANGE--TELEPHONE problems in Zanzibar will be solved late this year after the installation of a new telephone exchange at Kijangwani, the Isles Minister for Communications and Transport, Ndugu Suleiman Hamad, told the House of Representatives here yesterday. The Minister was presenting his Ministry's estimates for the 1983/84 financial year. He told the House that during the coming year, his Ministry would use 42,276,000/- and 35,500,-000/- for recurrent and development expenditures respectively. Ndugu Hamad said the new telephone exchange, to be installed between August and September, would provide between 3,000 and 8,000 lines. He said although the demand stood at 2,500 lines, there were presently only 1,000 lines in Zanzibar.  
[Attilio Tagalile][Excerpt] [Dar es Salaam DAILY NEWS in English 7 Jun 83 p 1]

CSO: 5500/176

ZIMBABWE

BRIEFS

COUNTRY TO JOIN PANA POOL--Dakar, 28 Jun (PANA)--The minister of information of Zimbabwe, Mr Nathan Shamuyarira, said yesterday in Dakar that his country had decided to sign the PANA Convention and begin to pay its contributions to the agency. Mr Shamuyarira, who paid a visit to the headquarters of the agency, said that he was pleased that PANA had finally taken off. He, however, expressed the desire to have Zimbabwe's national news agency, ZIANA, participate fully in its activities. The director of PANA, Mr Cheick Ousmane Diallo, told the Zimbabwe minister, that, since the agency began operations on 25 May, 27 African national news agencies had sent news to it. The volume of the agency's newscast has also risen from 8,000 to 16,000 words, he added. The PANA director assured Mr Shamuyarira that efforts would be made to see that ZIANA received PANA transmissions soon. Mr Shamuyarira is currently attending a meeting of the Association of African Political Scientists in Dakar. [Text] [AB281225 Dakar PANA in English 1214 GMT 28 Jun 83]

CSO: 5500/177

EUROPEAN AFFAIRS

NORDIC COUNTRIES' MINISTERS DISCUSS JOINT TV SATELLITE NET

Oslo AFTENPOSTEN in Norwegian 22 Jun 83 p 4

[Article: "Nordic Council of Ministers in Reykjavik--No Clarification of Nordic TV Channel"]

[Text] The Nordic Ministers of Culture did not succeed during their so-called TV meeting in Iceland Tuesday in coming to a final agreement on how the European ECS satellite will be utilized. At the meeting it was agreed that the Council of Ministers in Copenhagen should investigate the issue further.

Minister of Culture Lars Roar Langslet told NORSK TELEGRAMBYRA that there is a very tight program ahead. "This fall the Storting will decide how Norway will use the two lines that we have been assured. Before that time the Nordic broadcasting companies must also state if they want to participate, and thereby create a Nordic satellite channel," said Langslet.

Langslet said that he was surprised at the great interest his colleagues from Iceland, Sweden and Finland showed in the project. Denmark was not represented at the meeting, as that country does not formally participate in Nordic satellite cooperation, and also the Danes have expressed a desire to transmit more Nordic programs via cable.

"The Nordic countries can not count themselves out of technological development," said Langslet. "It was clear that the participants at the meeting noticed the pressure from large companies abroad, something which created a better climate for Nordic cooperation in this area," he added.

Iceland showed the greatest interest in a Nordic program offering over the ECS satellite, because for the present that is the country's only possibility to receive more Nordic programs. Norway, Sweden and Finland are co-operating on a local satellite, Tele-X, which eventually will bring programs from the three countries right into the viewers' homes. ECS programs must be retransmitted by cable.

9287  
CSO: 5500/2732

EUROPEAN AFFAIRS

BRIEFS

RADIO LINKS FROM FINLAND TO SWEDEN--The National Telecommunications Administration in Sweden has ordered a new type of radio link from Telenokia. The value of the order is 1.3 million Finnish marks and it was given to Telenokia after there had been severe international competition, that enterprise reports. Nokia has already been delivering radio links to the National Telecommunications Administration for a long time. The new digital links function in a range of frequencies of 1.5 GHz and they have 10 or 30 channels. With the new order, Telenokia has strengthened its position as the National Telecommunications Administration's most important supplier of apparatus, that enterprise reports. Text Helsinki HUFVUDSTADSLADET in Swedish 26 May 83 p 14 9266

CSO: 5500/2735

DOMESTIC FIRM INTRODUCING NEW DATA-COMMUNICATIONS SYSTEM

Helsinki HUVUDSTADSBLADET in Swedish 9 Jun 83 p 12

Article by Katarina Koivisto: "New Network Connects Data Functions"

Text The growing computer market in our country has made another contribution. Kaukomarkkinat is introducing a network system that makes it possible for an enterprise to couple all its data functions together no matter what the make of the computer, the viewing screen or the telex apparatus may be. "Every viewing screen in the system can become an intelligent working station," Kaukomarkkinat says, and it expects to have a big market for the network system.

The new system is called the X-Net, and it was developed by Christian Rovsing A/S, a rapidly-growing data enterprise in Denmark. The idea is that various types of data functions can be coupled together by means of a single system to form a functioning whole where the transmission of information between different points in the system runs smoothly. They are also introducing an intelligent viewing screen that is even going to be able to take care of some functions itself. An advantage of the X-Net that Kaukomarkkinat is pushing is that the system makes it possible for each viewing screen to be used as a telex. They also say that the screen is an electronic mailbox and the screens can also have contact among themselves. That had only been possible formerly in the same data enterprise's integrated systems.

More Expensive Initial Investment, Cheaper Continuation

Kaukomarkkinat has just acquired an X-Net system recently, and the initial investment in the system is about 300,000 Finnish marks. At present, they have 15 apparatuses to connect with the network, but they expect that number to be increased to 100 in the course of the coming years.

Kaukomarkkinat conceived this system specifically for enterprises that are planning to increase their computer work. The initial investment is a bit bigger than for another system, but then it becomes cheaper to make new connections. The investments will also be evened out more than in the case of many other systems, Kaukomarkkinat says.

Senior Director Christian Røvsing of the Danish concern expects that there will be a big market in Finland and Kaukomarkkinat says that negotiations are going on with 10 enterprises. The potential customers consist of 100 rather large companies, such as banks and insurance companies.

9266

CSO: 5500/2735

INTESPACE CHIEF SAYS SUCCESS IN SPACE DEPENDS ON ARIANE

Paris ELECTRONIQUE ACTUALITES in French 3 Jun 83 p 8

[Text] Does France still have opportunities in the realm of space after the Ariane mishaps and the successes of the American space shuttles? To these questions Mr Remondiere, chief of Intespace, gave a partial reply to the Space Club, which animates one of the pioneers of French space ventures, Mr Bignier. According to Mr Remondiere, these opportunities lie first in perfection of the Ariane launcher and in other launcher developments. The importance of European cooperation was emphasized as well.

For France, the eighties are characterized by the initiation of operational and commercial activities such as Telecom 1--Television de France (TDF) 1--SPOT and the development of the Ariane rocket whose fourth version is to be ready in 1986. But all attention is turned first to perfection of the launcher. Indeed, should the next shot, scheduled for June, prove a complete success, it may open the way to a significant share of the world market in satellite launches: according to certain studies, Ariane could launch some 60 satellites over the 250 planned from now to 1990.

But, aside from the commercial importance of this launcher (the entire satellite market through 1990 is estimated at 200 billion francs), it is important to fully master the technology because from these initial models proceed those which will permit development of the Hermes link-up vehicle, and evolve toward orbital station placement.

Future Projects

Besides the Ariane launcher, in recent years France has actively participated in the most important space programs, including Symphonie, the Argos system, and Spacelab.

In order to remain competitive, France will have to make a decision, around 1985-86, to develop the resources necessary to the development of orbital infrastructures for the dawn of the 21st century. Among the points of uncertainty, we should mention that we still cannot know if the development of optical fibers will in certain circumstances jeopardize the development of telecommunications by satellite. Our technology will also have to address

the problems of greater expansion as much in the carrying capacities of launch vehicles as in the number of channels on satellites.

On the whole, we can say that our country finds itself in a favorable enough position in the following areas: direct broadcast TV satellites with TDF 1, relay satellites with the STAR system whose technology serves as the high frequency, high intensity transmitter, observation satellite with SPOT whose features (CCD stereo-detector aiming) may still be developed in the infrared domain, and oceanographic satellites owing to our competence in microwave radars. By contrast, with respect to comprehensive projects--sophisticated observatories--for physiology and biology, etc., our country lacks the resources and will only be able to truly participate in certain space ventures in concert with her European partners, and especially with a firm commitment by the government.

12354  
CSO: 5500/2718

FRANCE

BRIEFS

CABLE NETWORK IN PARIS--The PTT [Post, Telephone and Telecommunication Agency] has confirmed to Paris City Hall that the capital's application for the installation of cable television networks has been retained. An agreement to provide 10,000 homes in the 13th and 15th arrondissements, with a possible extension to the 12th and 14th, should be signed before the end of the year, the ultimate goal being about 500,000 homes connected in 1989. According to Mr Chirac, Mayor of Paris, the State will cover 70 percent of the equipment expenditures, the remainder being provided by the city and repayable by the Parisian subscribers. The construction of the network, offering from 6 to 15 TV channels, and its maintenance will be the responsibility of the State. The operation of the networks will be entrusted to a local commercial company controlled by the local communities. [Text] [Paris ELECTRONIQUE ACTUALITES in French 27 May 83 p 9] 12354

CSO: 5500/2718

ICELAND

ICELAND MAY RECEIVE TELEVISION FROM NORDICS VIA SATELLITE

Reykjavik MORGUNBLADID in Icelandic 19 Jun 83 p 44

[Article: "Minister of Education Ragnhildur Helgadottir: Does Not Exclude Norwegian Television in Iceland"]

[Text] It is likely that Icelanders will be interested in receiving transmissions from the Norwegian television which will be transmitted via the European satellite system ECS. The Norwegians will be transmitting television programs to the drilling platforms in the North Sea, Jan Mayen, Spitzbergen and elsewhere via ECS. The minister said, however, that this had just come about recently and it would have to be arranged that the Icelanders would be able to utilize these transmissions, whether it would be undertaken by the Iceland State Broadcasting Service or others, according to information MORGUNBLADID received from Ragnhildur Helgadottir, minister of education, yesterday. The minister will attend a meeting of Nordic ministers on telecommunications which will be held on Tuesday.

This ministerial meeting will be attended by the Nordic ministers of education, communications and industry. Whether the Icelanders were interested in participating in the use of the Tele-x satellite as the Norwegians, the Swedes and the Finns are, the minister said she was studying the matter now and said that she could not say anything final about that at this stage but that she hoped that the matter would become clearer after the meeting on Tuesday. Helgadottir said that the Tele-x could cover more possibilities than television and she said that there were many interesting possibilities involved. "I will, of course, make every effort to make it possible for us to make use of the satellite in some way," said Minister of Education Ragnhildur Helgadottir.

9583

CSO: 5500/2731

ITALY

BRIEFS

TELECOMMUNICATIONS FOR SAUDI ARABIA--Rome, 24 Jun (ANSA)--Italy's state-held Italcable Corporation has gotten a 24 million dollar contract to supervise the installation of a new telecommunications network in Saudi Arabia. Italcable's job in the billion dollar project will be to manage the installation operation and check the quality, the promptness of delivery and handle the general inspection of the materials supplied for the extension of the communications network. [Excerpt] [Rome ANSA in English 1987 GMT 24 Jun 83 AU]

CSO: 5500/2742

TURKEY

AKYUREK ON TELECOMMUNICATIONS PRODUCTION IN TURKEY

Istanbul DUNYA in Turkish 2 Jun 83 p 7

[Interview with NETAS production manager Kunter Akyurek by Erhan Key: "NETAS: Leading Producer of Communications Equipment"]

[Text] Kunter Akyurek

Born 1940 in Isakli, Afyon. A graduate of Galatasaray Lycee, he next took a master's degree in electro-technical engineering at the National Institute of Applied Sciences (INSA) in France. Having joined NETAS [Northern Electric Telecommunication Corporation] in 1968, Akyurek is now director of manufactures. Married and the father of one child, Akyurek speaks French and English.

NETAS Board of Directors

Chairman: Turgut Sunalp

Deputy Chairman: Sefik Altay

Members: Fikret Yucel, Enver Ibek, Necat Arnas, C. Roger Lawton, W.T. Simpson

[Question] Mr Akyurek, 1983 has been declared the Year of World Communications; where does Turkey stand in communications in 1983? Would you assess the present status?

[Answer] One reason for the selection of 1983, as you mention, as the Year of World Communications is the steady growth of the importance of communications socioeconomically as well as militarily. Telecommunications is the only way that a lot of things which are done jointly by nations not just within their own borders can be done and information obtained simultaneously and on time in each nation for social, economic and military evaluation of it. It is therefore necessary that this information be transmitted in the most direct and regular fashion possible. There are different communications systems throughout the world, as you know. And they are also going through different stages. Turkey is just on the tail-end of world technological development. In fact, the cross-bar system, which was the newest technology of the time, installed in the switchboards in the 1960's was brought into our country by means of an international contract let by the PTT [Post, Telephone and Telegraph Administration]. This

technology was new in the 1960's, but became obsolete and was replaced first by electronic switchboards and then by digital systems following the development of integrated circuits. Where do we stand in Turkey while these developments are occurring elsewhere in the world? At the conclusion in 1967 of the contract let by the PTT in Turkey that we just mentioned, a company was formed to build cross-bar telephone switchboards in Turkey: NETAS. The company had a capacity of 400,000 lines per year. However, we ran into huge demand with the parallel growth of the importance of communications and development of industry. It was decided in 1975 to raise our capitalization to 100 million [liras] and our capacity to 160,000-200,000 lines/year. Today, while 1.5 million lines have been put in service by the PTT in Turkey, an equal number of people are waiting for the new switchboards to be opened. While distribution in Turkey today is as low as 3 telephones for each 100 persons, this figure is around 70 in both Switzerland and America. We are therefore at a rather low level as regards the number of telephones. Looking at annual development, though, annual growth worldwide is around 6 percent-7 percent, while in Turkey it has reached 16 percent. Even though this seems to be respectable development, it becomes statistically insignificant when we look at the per-capita figures. Communications demand is high in Turkey, but production is low. This production, however, is not just a question of installing a switchboard and making a telephone call. There is also a question of infrastructure.

#### Adequate Appropriations

[Question] I would also like to ask you what causes the inability to meet demand.

[Answer] Communications in Turkey is the responsibility of the PTT Management General Directorate which, as you know, is a public enterprise, and the PTT has to make the necessary infrastructure investments and then purchase the necessary equipment. That is, our development is in proportion to the funds appropriated by the state budget. Development of communications, therefore, does not depend on demand alone. Our state must show sufficient interest in it and allocate adequate funds to the PTT for investments. Still, the development-resources ratio in Turkey is something to be proud of.

However, world technological development is making the cross-bar switchboards that we manufacture obsolete.

[Question] I was coming to that. We are being left behind in the rapid development of world communications technology. We have a technology to produce switchboards, but they are soon obsolete. How do we resolve this apparent dilemma?

[Answer] The PTT today has drawn up a 10-year plan. If the plan is carried out on target the wait for lines will be ended. It is a fine, ambitious plan. To realize this plan, the PTT wants switchboards produced by new technologies to be given priority. It calls for building another telephone switchboard factory. That is, a new factory to produce digital-system switchboards in addition to NETAS.

### New Factory with Separate License

[Question] Would the new factory be a part of NETAS or is it a question of building a completely separate factory under a different license?

[Answer] A new factory is being considered. It would also be a licensed factory. And ARLA, which currently serves as the PTT's research and development laboratory, would form the nucleus of this factory.

[Question] Weren't there some talks a month or two ago between the Japanese and the PTT General Directorate? I wonder if they had anything to do with this?

[Answer] The status of the factory at present is this: The PTT has received bids from six different firms. Two of these are Japanese, Fijutsu and Nippon Electric. The others are Siemens, the Italian GTE, the Belgian ITT and Ericcson. These six firms are now in contact for licensing the PTT. If one of them is selected, switchboards will be produced using the new technology under the license of this firm. What is NETAS doing to keep in step with these developments? It is considering the production in Turkey of DMS systems, the world's most advanced technology, in conjunction with and under the license of Northern Telecom, a NETAS partner. Licensing discussions are now in progress and we expect a signature this year.

[Question] All right, but why is the need felt for a second factory? Is it because one factory perhaps cannot meet demand or is there some other reason?

[Answer] No, it would be for competition. Competition would be a positive development for our country. Consideration may have been given to the fact that it would both stimulate the existing firm to produce more and better and make possible the earliest accomplishment in our country of a lot of things which could not be done by only one firm, bringing about the kind of nationwide communications system desired.

[Question] The 10-year communications plan represents rapid progress as compared to before, sir. Would you make an assessment of this progress?

[Answer] This progress will be determined by the importance our state ascribes to this matter. This plan may be considered a bit of Utopia. But we have no other way to get this done. No matter how you look at it, communications seems to be one of our country's biggest problems. In fact, as PTT General Director Servet Bilgi said in a speech about the Year of World Communications, 1983 marks the year of a thrust. We hope the plan is carried out on time and the desired results achieved.

### Special Automatic Telephone Switchboard

[Question] Mr Akyurek, what is NETAS doing to catch up with technology?

[Answer] The new technology was beginning to have an impact around the world, so when NETAS went looking for sales possibilities, not just at home but abroad also, it found that cross-bar switchboards were no longer being used anywhere and

it was decided to set up a research and development laboratory. This started with a group of five people in 1975. Today, this group has grown to 90 and we are putting 3 percent of our sales into research and development. That is, if we are talking about real figures, NETAS has a 280-million lira fund today for this purpose. And it has paid off. Turkish engineers and workers have developed a special automatic telephone switchboard on their own without help from any other technology. This switchboard has been put on the market and is receiving quite a bit of interest. Thirty of these special automatic telephone switchboards, or "space net" as they are called, which have been manufactured since the first of the year have been sold, thus putting PTT into service on the foreign market. In addition, our research and development group has developed an intercity grid that uses a screen instead of cable. Also, this R&D group, which we call ARTEL, has developed a test device to check links between switchboards automatically. One reason for our work on the special automatic telephone switchboard was to get in on the groundfloor in the special communications market needed in the oil-rich nations of the Middle East. In fact, we are attending almost every trade fair held in the Middle East in pursuit of this purpose and we are finding a great deal of interest shown in us.

Target Market: Middle East

[Question] Have you made any export commitments?

[Answer] Not yet, but we have made two sales to Libya and are also working on Jordan. Moreover, we are planning to exhibit this special automatic switchboard at another fair coming up in the Middle East. We are trying to use the trade fairs to market this product of ours.

[Question] Fine, sir. Now what market chances do these special automatic switchboards have, your "space net"?

[Answer] The Canadian firm Mytel is the world's top manufacturer of special automatic telephone switchboards. We intend to give this firm some competition. We therefore try to put every feature that their switchboards have into ours, too. But this is not just a copy.

[Question] Is this Canadian firm your only competition?

[Answer] There are many competitors, but this is our chosen rival.

[Question] O.K., what are our chances? That is, are we producing at lower cost or do we offer some other advantage?

[Answer] I do not think we will have any problem as to price, provided we have adequate marketing. At present, of course, some of our inputs are imported, because the subsidiary industry in Turkey has not yet caught up with the technological development. And this will have a negative effect on our costs.

[Question] In what areas does the electronic industry in Turkey fall short as to technological development?

[Answer] The new technology does not just draw upon the potential of the electronic industry, but upon data processing as well. That is, the switchboards we will be making today have a hardware side and a software side. The hardware side consists of a combination of integrated circuits, active and passive elements and plastic or metal parts. But these integrated circuits are given their commands by the software. This is the basic problem in Turkey. We can spend the money to import these little beauties today, but we have to develop software here. We have a great need for software engineers to do this. This is where the large part to be played by our universities comes in.

What our universities have to do is go neck and neck with technology, not follow it, so we can bring to Turkey the technology for our own purposes. Even if I were to bring the technology to Turkey, if I could not train sufficient personnel or it if were to take at least 5 years to train them, I would still be 5 years behind. It is therefore necessary for our universities to work together with the industry involved in this technology. That is, there is a great need for university-industry cooperation.

We have set some goals in research and development for what we can do with our own resources today. And we are on the way to achieving these goals. In fact, special automatic switchboards to serve up to 200-250 subscribers have been produced. But when we look at world technological development, at the money a Japanese firm spends on R&D, we see that it also uses state funds, not just its own money. The Japanese government is appropriating funds for private firms involved in research and development and adopting incentives for them. We have not reached this stage. When we reach this stage, firms will be in a position to take more courageous decisions.

#### Striking Comparison

[Question] I am asking simply because I think the answer will be striking. While we set aside 250 million liras for R&D, for example, how much would this be for a Japanese firm?

[Answer] I was speaking in terms of Turkish liras. You have to multiply this by at least 15 to get a dollar figure [as published]. Moreover, R&D is now being done on a national basis not a firm basis, and this is now the target. We are therefore heading for a single world standard. While there used to be no standardization among firms, we are now heading for standardization among nations.

[Question] What kind of development has your firm demonstrated since it was founded in 1967? I would like to ask how it did in 1982 and what your plans are for the future.

[Answer] As I said a while ago, NETAS' goal when it was founded was to produce 40,000 lines/year. However, with the steadily growing importance of communications, investments were made in expansion. Capacity was quadrupled in 1975 to 160,000 lines/year and has been raised to 200,000-250,000 lines/year today. Last year, 210,000 lines were produced and put into service. We plan to raise that figure this year. But, in accordance with the 10-year plan, the cross-bar switchboards we now produce will no longer be in production as of 1988-1989.

NETAS plans to move into production with new technology instead. That is, mass production of automatic switchboards will have begun. We may describe the advantages of these switchboards in this way: First, building space required will be reduced to one-quarter. That is, if the cross-bar switchboards we manufacture today require 80 square meters of space, the switchboards to be produced with the new technology will occupy only 20 square meters. Building investment is therefore reduced. Also, since transmission will be digital instead of numerical, the same line will be able to carry 30 conversations instead of 1, thus reducing cable investment 30-fold. The noise that interrupts conversation on numerical switchboards will also be eliminated. This will be an important development to the subscriber.

#### Sales of 7 Billion Liras

Looking at NETAS' activities last year, we see that it had sales of nearly 7 billion liras. The domestic input rate in the switchboards we produce today has reached the 77-percent level. This is an important development. When you consider that the domestic input rate in our first products was 20 percent, it is a real accomplishment to have raised this to 77 percent in 15 years. We have considerable problems with the subsidiary industry in this connection. Our products are professional equipment, not like a radio or a refrigerator. Because the equipment we produce provides a public service, it must be of a higher quality, more durable and more reliable. When your refrigerator breaks down, you can expect it to be repaired in 2 or 3 days. You can manage on convenience foods for that long. But if a switchboard breaks down, the subscribers serviced by that switchboard become deaf and dumb. Therefore, the importance of high-quality switchboards is greater. Knowing this, NETAS works in constant cooperation with the employees it trains and with the subsidiary industry as regards quality. We have domestic receipts of almost 2 billion liras today. This is done in conjunction with a trained subsidiary industry that understands the importance of quality. However, as I said, we will be moving into a retraining period when we go into production with the new technology. For Turkey to be able to export, it has to place great importance on quality. The idea of selling whatever we make has to go now and be replaced by the concept of quality. Only when we produce high-quality products can we find a place in this market.

#### Lines Put Into Service

Year	Number
1978	121,000
1979	59,500
1980	150,000
1981	176,000
1982	210,500

#### Total Lines in Service

1978	687,500
1979	747,000
1980	897,000
1981	1,073,000
1982	1,283,500